Chapter 4
Project Oversight Processes

Chapter Overview

This chapter provides Customs with a set of tailorable, repeatable processes for tracking and reviewing projects.

In addition, a core set of required activities and metrics are defined.

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Section A
Overview of Management Control Processes

Section Overview

Management control consists of ensuring that the project meets its goals including both:

- Product goals (functionality, technical aspects, quality, ...)
- Project-specific goals (schedule, budget, ...)

Tracking progress, commitments, and effective technical and management oversight are required in order to ensure that appropriate corrective actions may be taken when necessary.

Caveats

- Management Control activities begin after initial planning is completed. Although not discussed as part of this section, it should be understood that planning, procurement, and evaluation activities are also tracked within a project's life cycle.

- Roles and responsibilities are defined functionally within a project, irrespective of organizational titles.

  Reference: Volume I, Appendix A, *Terms Used in This Handbook*.

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Process Description

Management Control Process Intent	The Management Control process is intended to:

- Allow management and staff to address potential problems proactively and reduce the amount of rework

- Improve product quality

Major Activities	The Management Control process involves:

- Reviewing the project's accomplishments and results against documented estimates, commitments, and plans

- Adjusting project plans and performance to address recognized problems

- Ensuring that changes to commitments are agreed to by all affected groups and individuals

- Identifying, assessing and tracking project risks and mitigation strategies

Why Do We Collect Metrics?	Metrics on actual project results are collected and used as indicators:

- To assist in the revision and replanning of the current project as necessary

- To plan future activities so that estimates and schedules become more realistic

Items to be Documented	The following items should be documented and tracked as part of management control:

- Estimates and planning assumptions and their revisions
- Requirements
- All commitments and meetings
- Risks and mitigation strategies

Reference: Volume I, Chapter 5, *Risk Management Processes*, for specific details.

Purpose and Benefits

Purpose   The purpose of the overall Management Control process is to provide visibility into the project's actual progress so that management can take effective actions when the project's performance deviates significantly from the plans.

This includes:

- Tracking and reviewing accomplishments, results, and changes against documented estimates, commitments, and plans [e.g., relating to size, schedules, cost, staffing, computer resources, functionality, constraints, technical design and activities, risks, and performance]

- Analyzing the results to recognize problems when they occur and adjusting the project plans, commitments, and performance to address these problems

- Identifying, assessing, and tracking project risks and mitigation strategies

- Performing reviews both internal to the project and with senior management

Benefits
- Provides senior management with a structured method and tool to monitor a project's progress

- Provides project management with a realistic view of the status and risks of the project

- Potential problems can then be dealt with appropriately in a planned fashion rather than by "firefighting" and reacting to difficulties after the fact

- Establishes a minimum set of standards and procedures to ensure that basic information is collected and available to all interested parties

Process and Activity Flow Diagrams

Process Introduction

The Management Control Process as a whole consists of processes and activities discussed in Volume I, Chapters 3, 4, and 5. The rest of this section provides an overview of this high-level process.
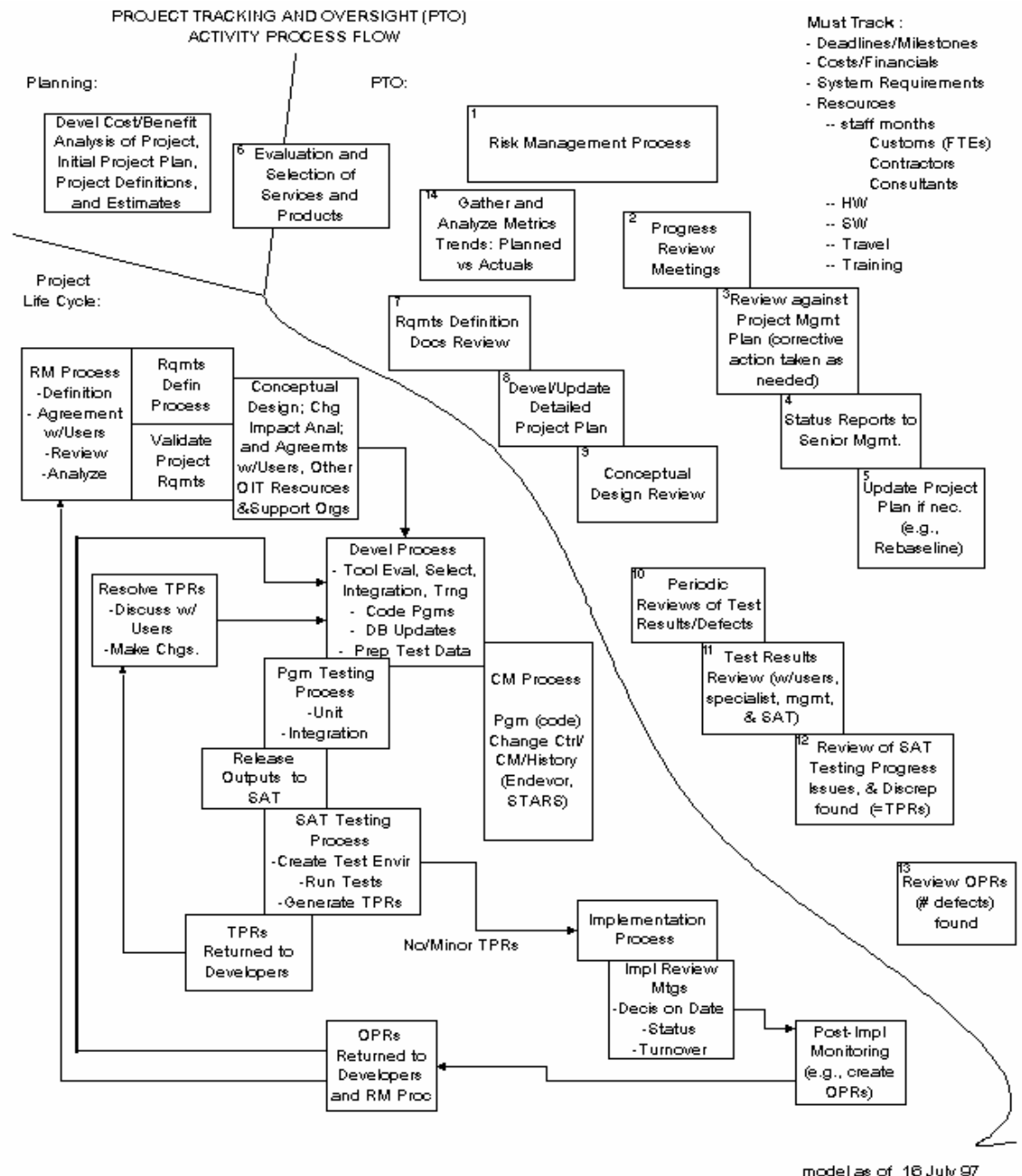
Process Diagram
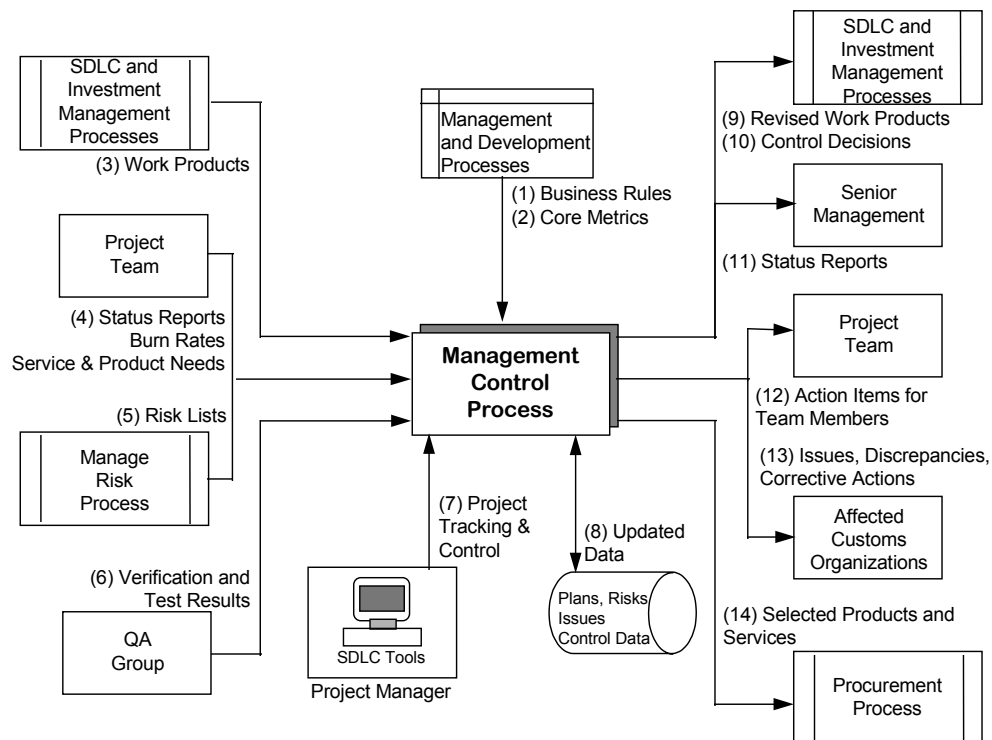
Activity Process Flow Diagram Introduction

The next diagram illustrates current Customs project-level Management Control activities, shown as numbered boxes above a generic Customs project life cycle flow. No specific priority or sequence is implied by the numbers used; these activities are performed throughout the project life cycle in a continuous, concurrent, and iterative manner. The table following this diagram provides a cross-reference to the SDLC Handbook sections defining specific processes and procedures relating to each generic activity.

Process and Activity Flow Diagrams, Continued

Activity Process Flow

PROJECT TRACKING AND OVERSIGHT (PTO)
ACTIVITY PROCESS FLOW

Must Track :
- Deadlines/Milestones
- Costs/Financials
- System Requirements
- Resources
  -- staff months
     Customs (FTEs)
     Contractors
     Consultants
  -- HW
  -- SW
  -- Travel
  -- Training

Planning:

Devel Cost/Benefit Analysis of Project, Initial Project Plan, Project Definitions, and Estimates

PTO:

6 Evaluation and Selection of Services and Products

1 Risk Management Process

14 Gather and Analyze Metrics Trends: Planned vs Actuals

2 Progress Review Meetings

Project Life Cycle:

7 Rqmts Definition Docs Review

3 Review against Project Mgmt Plan (corrective action taken as needed)

RM Process
-Definition
- Agreement w/Users
-Review
-Analyze

Rqmts Defin Process

Validate Project Rqmts

Conceptual Design; Chg Impact Anal; and Agreemts w/Users, Other OIT Resources &Support Orgs

8 Devel/Update Detailed Project Plan

9 Conceptual Design Review

4 Status Reports to Senior Mgmt.

5 Update Project Plan if nec. (e.g., Rebaseline)

Resolve TPRs
-Discuss w/ Users
-Make Chgs.

Devel Process
- Tool Eval, Select, Integration, Trng
  - Code Pgms
  - DB Updates
  - Prep Test Data

10 Periodic Reviews of Test Results/Defects

Pgm Testing Process
-Unit
- Integration

CM Process

Pgm (code) Change Ctrl/ CM/History (Endevor, STARS)

11 Test Results Review (w/users, specialist, mgmt, & SAT)

Release Outputs to SAT

12 Review of SAT Testing Progress Issues, & Discrep found (=TPRs)

SAT Testing Process
-Create Test Envir
-Run Tests
-Generate TPRs

TPRs Returned to Developers

No/Minor TPRs

Implementation Process

13 Review OPRs (# defects) found

Impl Review Mtgs
-Decis on Date
-Status
-Turnover

OPRs Returned to Developers and RM Proc

Post-Impl Monitoring (e.g., create OPRs)

model as of 16 July 97

Management Control Process Overview

Management Control Activities

Following is a cross-reference between generic project-level Management Control activities performed at Customs, as illustrated on the Process and Activity Flow diagram, and relevant process descriptions in this SDLC Handbook:

Management Control Activity	Relevant SDLC Handbook Topics	See Chapter/ Section
1. Track Risks	• Risk Management Process: Risk Mgmt Communication, Identifying Project Risks, Assessing and Prioritizing Risks, Mitigation Planning, and Monitoring Project Risks	5
2. Progress Review Meetings	• Project Status Meetings	4/C
	• Meetings, Issues, and Action Item Tracking	4/D
	• Project Metrics	4/B
	• Risk Management	5
	• Reporting Across OIT Organizations	4/C
	• Requirements Change Control/Impact Analysis	3/E
3. Review against Project Management Plan (corrective action taken as needed)	• Project Status Meetings	4/C
	• Reporting Across OIT Organizations	4/C
	• Project Metrics	4/B

Continued on next page

Management Control Process Overview, Continued

Management Control Activities (continued)

Management Control Activity	Relevant SDLC Topics	See Chapter/ Section
4. Status Reports to Senior Management	• Senior Management Reviews	4/C
	• Project Metrics	4/B
	• Risk Management	5
	• Meetings, Issues, and Action Item Tracking	4/D
5. Update Project Plan if necessary (e.g., Rebaseline)	• Revising/Rebaselining the Project Plan	4/E
	• Meetings, Issues, and Action Item Tracking	4/D
6. Evaluate and Select Services and Products	See guidelines relating to Procurement and Acquisition of Support Services and Products. Also see discussion on selecting and implementing Off-the-Shelf packages	10/C
7. Requirements Definition and Documen-tation Review	• Technical Reviews: Work Product Review/Acceptance	3/C
	• Requirements Change Control/Impact Analysis	3/E
	• Meetings, Issues, and Action Item Tracking	4/D
8. Develop/ Update Detailed Project Plan	• Project Status Meetings	4/C
	• Reporting Across OIT Organizations	4/C
	• Revising/Rebaselining the Project Plan	4/E

Continued on next page

Management Control Process Overview, Continued

Management Control Activities (continued)

Management Control Activity	Relevant SDLC Topics	See Chapter/ Section
9. Conceptual Design Review	• Technical Reviews: Work Product Review/Acceptance	3/C
	• Meetings, Issues, and Action Item Tracking	4/D
	• Project Metrics	4/B
10. Periodic Reviews of Test Results/ Defects (prior to turnover to SAT)	• Technical Reviews: Informal Internal Reviews, and Peer Reviews	3/C
	• Project Status Meetings	4/C
	• Project Metrics	4/B
11. Test Results Review [aka Migration Meeting]	• Technical Reviews: Work Product Review/Acceptance	3/C
	• Meetings, Issues, and Action Item Tracking	4/D
12. Review SAT Testing Progress, Issues, and Discrepancies Found (=TPRs)	• Project Status Meetings	4/C
	• Reporting Across OIT Organizations	4/C
	• Project Metrics	4/B

Management Control Process Overview, Continued

**Management
Control
Activities**
(continued)

Management Control Activity	Relevant SDLC Topics	See Chapter/ Section
13. Review OPRs (= Post-Implementation Defects) Found	• Technical Reviews: Work Product Review/Acceptance • Project Metrics	3/C 4/B
14. Gather and Analyze Current Progress Data and Review Trends	• Project Metrics	4/B

**The
Management
Control Process
Begins...**

After a Project Plan is baselined and the project is started

Initial Inputs

Work products used or modified in this overall process are:

- Current Project Plan, including the:
  - ▸ Schedule
  - ▸ Budget
  - ▸ Resources assigned and projected staffing needs
  - ▸ Deliverables
  - ▸ Any special requirements for the chosen life cycle and/or technologies

- High-level, Concept-level User Requirements (at minimum)

Management Control Process Overview, Continued

Initial Inputs
(continued)

- Initial/Current Plans, including (as available):
  - ‣ Configuration Management Plan
  - ‣ Quality Assurance Plan
  - ‣ Implementation Plan
  - ‣ Security Plan

- Assigned roles on the project

Ongoing Inputs

Ongoing inputs, after activity starts, also include:

- Current Plans and Requirements
- Technical Progress/Status Reports
- Project Risks/Issues/Problems
- Configuration Management and Testing Status Information (if appropriate)
- Burn Rate Information

Outputs

Work products produced from this overall process are:

- Staff Meeting Reports
- Management Reports
- Updates to the Project Plan, Burn Rate, and Project Risks
- Risk Mitigation and Corrective Action Decisions

This Activity is Complete ...

When the project is canceled or placed on hold

OR

After the project is implemented and evaluated (including archiving history and wrap-up functions if any)

Section B
Project Metrics

Section Overview

A minimum set of core indicators have been defined and are required for project monitoring on **all** Customs projects.   This section discusses the requirements for collection of metrics as indicators of efficiency, effectiveness, and productivity within Customs projects.

Projects are encouraged to gather and use additional metrics to provide information on project-specific issues and risks.

Process Diagram
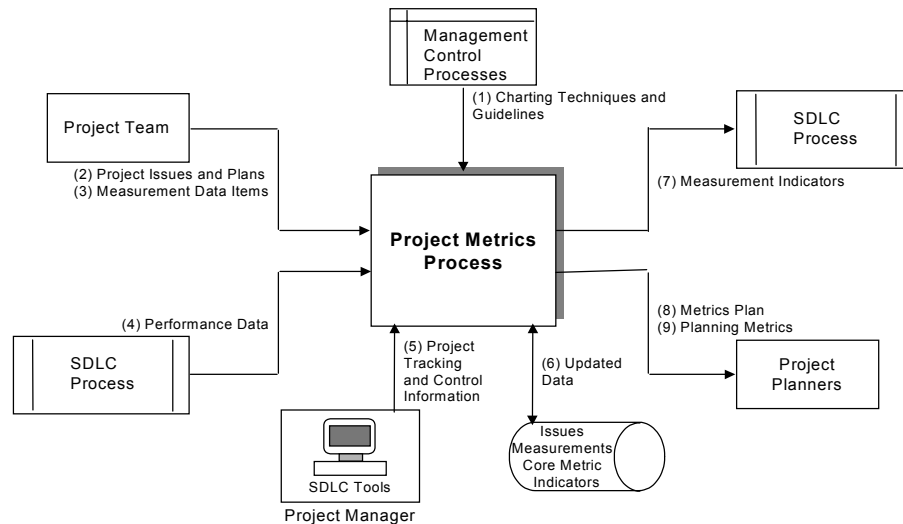
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Purpose and Benefits

Purpose and Benefits

The information gained from measurement activities can be used to help:

- Define feasible, realistic software plans and achievable goals

- Achieve project objectives (e.g., schedule, quality and functionality)

- Identify and track project risks by recognizing problems early so that corrective actions may be taken in time to affect the outcome of the project

- Defend and justify decisions by objectively assessing impacts and key tradeoffs

- Satisfy constraints

- Serve as a basis for effective, consistent and objective communications throughout the organization by:

    ‣ Reducing ambiguity about issues and priorities
    ‣ Enhancing communication both up and down reporting chains

- Assess the impact of process changes

Cautions:

- Measurement is <u>NOT</u> to be used for motivation or punishment.

- Measurement is <u>NOT</u> to be used for evaluation of individual or workgroup performance.

References

Practical Software Measure: A Guide to Objective Program Insight (Naval Undersea Warfare Center Division, Department of Navy, version 2.1, March 1996.), for additional information on selecting, defining, and using software management indicators.

Measurement Concepts

Definitions   **Measure:** A method of counting or otherwise quantifying some attribute of a software process or product. Measures alone usually do not provide much insight into issues.

>   **Example:** Measuring the amount completed gives a sense that work is progressing; however, without comparing the work performed with the plan, we cannot tell if the work is on schedule.

Indicator: A measure or combination of measures that facilitates insight into a issue or concept. An indicator is produced by applying an analysis technique to the data, often comparing one or more measured values to expected values.

>   **Example:** By the time a size, effort, or schedule performance problem is recognizable in a single indicator, the problem has probably become one of major proportions.

Project-Specific Issue: Anything that might affect the achievement of project objectives. Issues include risks, constraints, and any other concerns which can impact the success of the project. Identifying something as an issue does not mean that it is a problem, but rather that it might become a problem.

>   **Examples:**
>   - Requirements/project growth and stability
>   - Aggressive or unrealistic organizational goals
>   - Product quality
>   - Computer hardware resource utilization or performance
>
>   **References:**
>   - Volume I, Chapter 5, *Risk Management Processes*
>   - Volume I, Chapter 4, Section D, *Meetings, Issues, and Action Item Tracking*

Project Metrics   The project will implement the required core metrics as listed in this section and further defined in Volume I, Chapter 17, *Process and Control Documents.*

In addition, projects may select and implement any other measures they find useful. Give special consideration to existing data sources and activities so that low-level raw data is collected in the least disruptive, integrated manner.

Measurement Concepts, Continued

Users of Collected Metrics

User	What They Get From the Metrics -- An Understanding of ...
Project Manager and Project Team	• The project's current status (planned vs. actual) • What may happen (trends) with respect to an issue • Information for risk identification and monitoring
Executive Management, Planners, Process Improvement Groups	• Information for replanning the current project • Information for defining plans for other similar projects
Individuals	• Private Measures to improve personal software processes and estimates.

Measurement Guidelines

• Measurement data must be used; if it is not needed, don't collect it.

• Action must be taken to realize any benefits from measurement. Actions, once taken, should be tracked to:

  ‣ Assess the effectiveness of the action
  ‣ Ensure that the action does positively affect the outcome.

• Monitor trends over time. Seek to understand deviations <u>before</u> reacting to them.

• Additional context information is almost always needed to make valid interpretations as to the cause of a problem on a specific project.

• Select and interpret metrics in a manner which encourages desired behavior.

  Example: Treat the number of defects found in a peer review as "saves" (from saving time by eliminating later re-work) as opposed to calling them "defects found", where "defects" is taken to mean "bad coding".

Measurement Concepts, Continued

**Measurement Guidelines** (continued)

- Share the benefits of having this data with the team and stakeholders. Show how measurement results support both individual and management objectives.

  Examples:
  - ▸ Describe the decisions made using this data.
  - ▸ Show trends to help customers and the team understand future needs.
  - ▸ Share data to define new estimates.

Metrics Program Activity Flow Diagram

The following diagram illustrates a metrics program's activity flow in more detail.
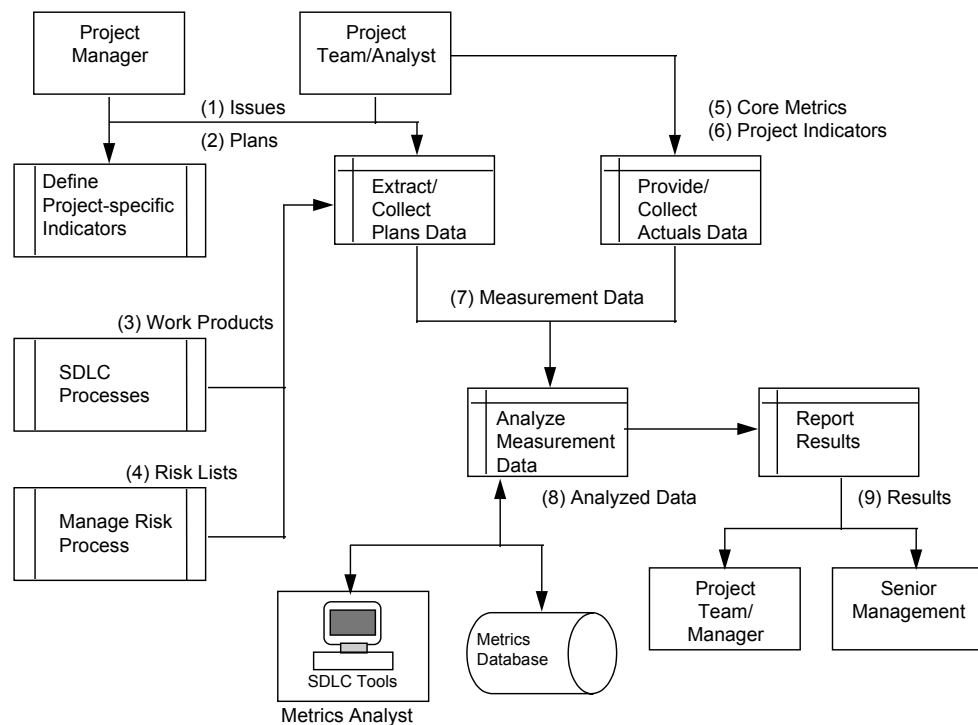
Required Core Indicators

Introduction   These core indicators are required to be developed by each project <u>and</u> support organization on a monthly basis to assist in the monitoring and evaluation of trends and progress on the project.

Reference: Volume I, Chapter 17, Section E, *Guidelines for Specific Core Project Metrics*

Why Were These Metrics Chosen?   These metrics were chosen for:

- The information they provide
- Their ease of collection and interpretation within each category of issues to be reviewed
- Their consistency with current industry practice

Required Core Project Metrics   The project core indicators required to be tracked have been defined as follows:

Schedule and Progress Indicators:
- Significant Milestone Dates (planned and actual)
- Milestone Percent Complete (by number of subcomponents fully complete)
- Progress Indicators and Trend (planned vs actual units completed)

Resources and Cost Indicators:
- Staff Hours/Level of Effort, accumulated by subtask (planned vs actual)
- Project Staff (number planned vs actual) [optionally by clearance status]

Project Growth and Stability Indicators:
- Number of Total Requirements over time
- Number of Changes to Requirements over time
- Work Products Size (planned vs actual)

Product Quality Indicators:
- Number of Saves/Discrepancies by Status (i.e., open, closed, total) over time
- Defect Severity (number of open discrepancies by priority or class)

Measurement Analysis

Using Indicators	Collected data must be analyzed, (planned vs actuals) compared, and prioritized to adequately address and respond to variances from the expected value.

It is best to rely on integrated analyses using multiple indicators. |
| **Data Verification** | During analysis, consider both the accuracy of the data as it is gathered and recorded, as well as the accuracy with which it is transmitted.

All data items should include the date and source. This helps in the analysis process to correlate data with project events.

Check results for validity, completeness, range, etc. Sometimes the assumptions underlying previously defined measurements can change.

Clear definitions of a project measure help to ensure consistent data. Even seemingly obvious terms like staff-months need to be defined for the project.

Note: Because performance varies from week to week, be wary of "actual" data that exactly matches the "plan". |
| **Frequency** | Indicators are analyzed from two perspectives:

• A **feasibility analysis** should be conducted with respect to an issue during the initial planning activity and at all subsequent replans.

• **Performance analysis** of the required core metrics is to be done every month for each project. Additional metrics can be used by a project for specific issues. |

Measurement Analysis, Continued

Feasibility Analysis

Indicators of past and current performance provide insight into what future performance plans and schedules should be. Feasibility analysis:

- Deals with the accuracy and realism of plans, estimates, or assumptions associated with an issue

- Helps determine whether proposed limits are reasonable and soundly based in fact, and whether the performance implied by the indicator/goal is actually achievable

Performance Analysis

Indicators help explain both what may happen (trends) and what is happening (planned vs actuals) with respect to an issue. Regardless of its feasibility or goodness, once a project has committed to a plan, adherence to the plan can be measured.

When doing an integrated performance analysis of indicators, the following items should be looked for:

Look for ...	Because ...
Leading Indicators	These help to identify problems <u>before</u> they translate into a measurable schedule slip or cost over-run. **Leading Indicator Examples:** Defect Status, Requirements Stability, and Project Growth (in product size or number of requirements) are good examples of leading indicators. **Example:** If the number of new requirements or requirement changes are increasing steadily, this is an indicator that schedule and cost will be adversely impacted in the future unless corrective action is taken. Corrective actions could include, for example: • Freezing definition of scope/functionality changes • Employing a defined multiple release life cycle • Adding resources to handle additional work

Measurement Analysis, Continued

Performance Analysis (continued)

Look for ...	Because ...
Critical Path Items	Critical path delays and/or quality problems in a critical path item can have a ripple effect late in the project if not recognized and countered early. **Examples**: 1) If development of complete Integration Test Plans from a project's baselined requirements and design is delayed until unit testing is complete, this will impact the timely completion and quality of the testing phase. 2) Tracking a computer hardware resource utilization metric during system development is important if a primary constraint on the project is system memory or network throughput once the system is in production.
Inconsistent Trends	Sometimes two related indicators will suggest differing situations, even though one variance alone isn't large enough for concern on its own. **Example:** One indicator on design progress indicates that the project is only slightly behind its planned module completions. However, a second indicator on the number of discrepancies found during design reviews shows that the number of open problems (and, therefore, the amount of design rework needing to be done for each module) is increasing. Neither indicator may be out of line currently, but the trend of both can indicate a process problem and potential schedule risk.

Measurement Analysis, Continued

Performance Analysis
(continued)

Look for ...	Because ...
Comparison of Measurement Results within the Project	Measurement results can be compared and evaluated within the boundaries of the project to identify problems. Identifying specific sources of a problem using detailed data helps to determine the cause of the problem and select an appropriate corrective action. **Example:** Comparing technical review defect densities between modules on a project can identify those components with an unusually high number of defects. This will allow for focused inspection and rework of these modules before problems and delays occur during acceptance tests.

Interpreting Measurement Context

Metric analysis and knowledge of the project specifics must be combined to:

• Develop valid interpretations
• Provide needed information for management action

Use caution and project context when interpreting "what" is indicated by the data. Depending on the <u>cause</u> of the variance, different actions may be indicated.

Measurement Analysis, Continued

**Context
Examples**

<u>Case 1:</u> To answer the question, "Will the system provide the needed capability?" the number of errors in the software is often used to indicate whether the system will perform as required. The number of errors found in code can be measured. What do these measurements mean?

If ...	Are ...
Many errors are found in the software	• Coders doing an inferior job in providing the needed capability? • Testers doing a superior job in testing the capabilities?
Few errors are found in the software	• Coders superb? • Testers not testing the right things?

<u>Case 2:</u> Actual project progress over time can be tracked and compared to planned time to answer the question, "Will the system be developed at cost and on schedule or will overruns occur?" What do these measurements mean?

If ...	Is ...
The project appears to be late	• The development team not capable? • The development team doing "hard" things first and will catch up later? • The original estimate low? • The scope of the job different from planned?
The project appears to be on time	• The development team working unrecorded overtime? • The development team doing a shoddy job? • The schedule estimate good? • The developer doing the "easy" things first to meet schedule?

Measurement Analysis, Continued

Using Percentages	Be careful that the use of percentages does not hide significant trends in the data.

Example: A task has 100 items. 50% complete could indicate either:

- All 100 items are half done (maybe)
- 50 of 100 items are fully completed

Displaying and Reporting Indicators

Value of Good Graphics

Management indicators are powerful tools. The use of good graphic and table displays can enhance communications.

The basic idea is to keep it simple and let the charts speak for themselves. Project interpretations and definitions should be identified on each chart.

Example:
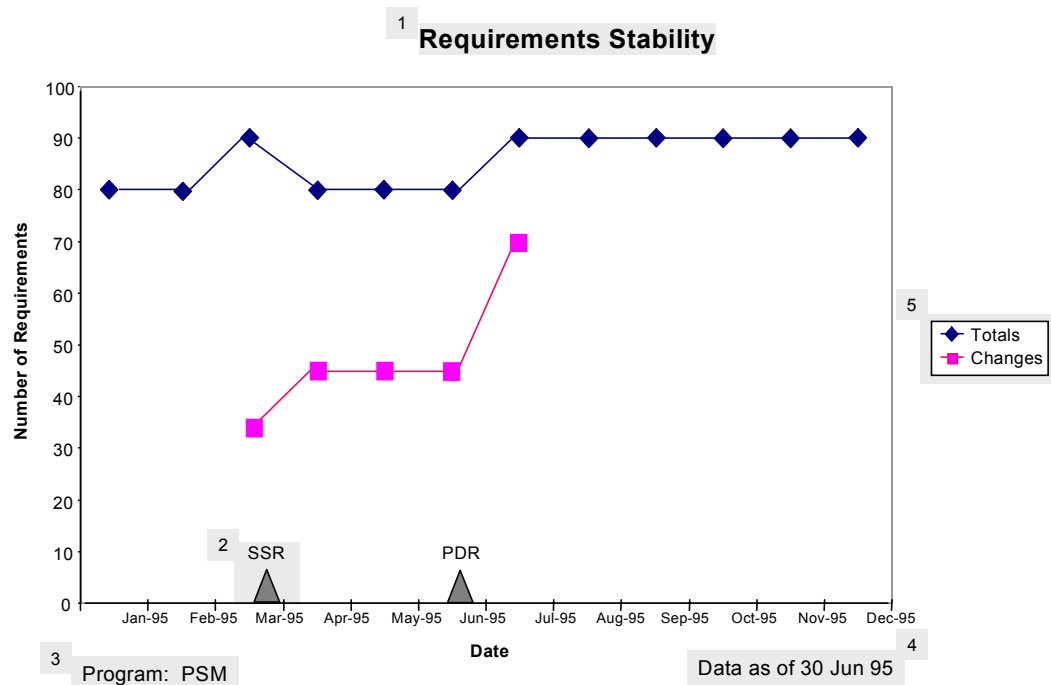
Conventions: 1. Descriptive Title
2. Milestones
3. Program Name
4. Measurement Date
5. Key

Note

Project interpretations and definitions should be documented on each graph and be readily available to anyone the chart is presented to.

Section C
Management Reviews/Oversight

Section Overview

This section contains two types of information:

- Procedures specifying required minimums on the project level for frequency of occurrence, agendas, and responsibilities for oversight activities.

- Requirements for communication and tracking progress, risks, and issues relating to project activities across support organizations as well as updates internal to a project

NOTES

- Projects are encouraged to plan and perform more than the minimums specified here in their oversight and communication activities.

- Senior management and project status reviews will certainly cover security issues, as appropriate. However, these are not a substitute for the reviews required for security certification and security accreditation, which must occur prior to going operational and periodically thereafter.

Related References

Volume I, Chapter 4, Section B, *Project Metrics*

Volume I, Chapter 4, Section D, *Meetings, Issues, and Action Item Tracking*

Volume I, Chapter 5, *Risk Management Processes*

In This Section

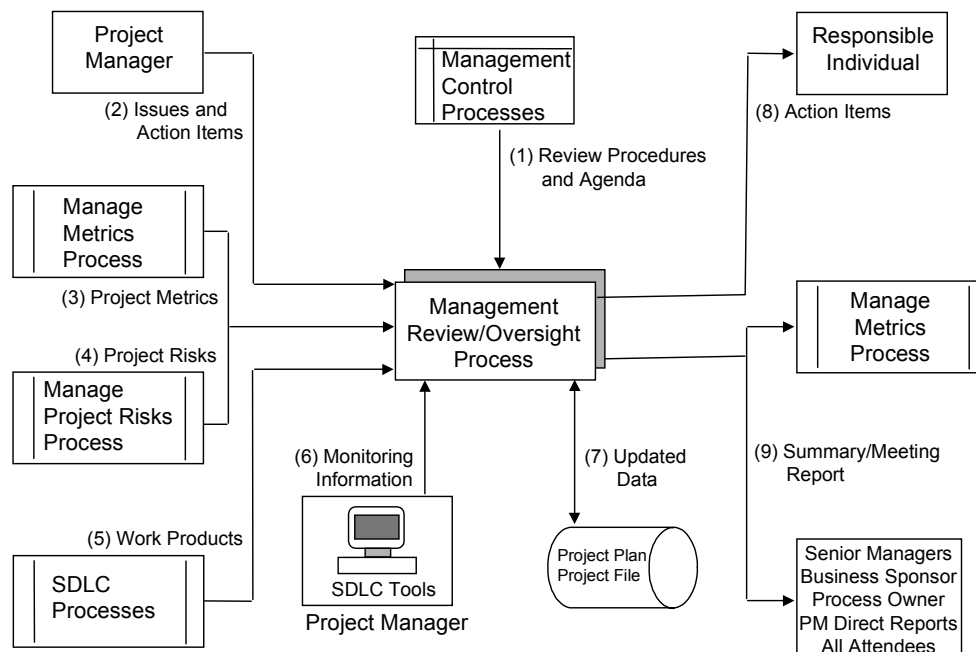| Topic	See Page
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Reporting Across OIT Organizations	I-4-35

Senior Management Reviews

Definition   **Senior Management**: For a particular project, senior management is the functional role <u>above</u> that of the Project Manager who is responsible for the day-to-day activities and results of the project. Senior management's primary focus is on the long-term vitality and needs of the organization, rather than short-term project and contractual concerns.

Purpose   The purpose of a senior management review is to:

- Provide senior management with an awareness of and insight into the software process activities within the manager's area of responsibility

- Provide senior management with more in-depth information about a project's:

  - ▸ Progress
  - ▸ Risks
  - ▸ Issues
  - ▸ Accomplishments in comparison to the project's baselined plans

  than would be given at a general staff meeting.

Management Focus   The project information provided in this review should be at an appropriate level of abstraction and presented in a timely manner so that management is able to provide assistance to or understand impacts on the project when changes are considered.

Frequency   Senior Management Reviews must occur on a regularly scheduled basis and be documented.

- Experience and best practices suggest that these reviews occur monthly.

- At minimum they must occur at least every other month, depending on the project's size and criticality, and more often as major milestones occur.

Senior Management Reviews, Continued

Process Diagram

Roles and Responsibilities

Role	Responsibilities
Senior Manager	• Participates in pre-planned periodic meetings; reviews status information on project • Provides counsel, resources, and assistance on issues and concerns • Resolves problems requiring management support

Continued on next page

Senior Management Reviews, Continued

Roles and Responsibilities (continued)

Role	Responsibilities
Project Manager (PM)	• Schedules pre-planned periodic meetings, taking into account the senior manager's schedule; provides agenda for meeting • Presents required information (defined under Inputs) and problems, plus any other necessary items
First tier of Project Leadership under the PM and/or Technical Leads, and Other Support Organization Representatives as needed	• Provides information and support as needed (attendance depends on project requirements) • Tracks project plans against progress • Assists with planning and scheduling meetings

Meeting Agenda

Participants shall review the following topics during each meeting:

• Schedule
  ‣ Original Planned, Revised Planned, and Actual Schedule/Dates
  ‣ Reasons for Differences
  ‣ Plans to Correct

• Resources
  ‣ Cost Planned vs Actual
  ‣ Staffing Planned vs Actual

• Status of Action Items

• Project Risks -- Current Top N (5 - 7 recommended)

• Issues requiring Higher Management Help/Intervention

• Cross-Functional/Organizational Dependencies/Concerns

Senior Management Reviews, Continued

Inputs   Items that are used or modified during this activity are:

- Project Metrics
- Project Risks
- Issues/Action Items
- Plans (includes the overall Project Plan and Schedule)

Outputs   This activity will produce the following:

- Action items with assignees and due dates

- Summary/Meeting Report which contains, at minimum:
  ‣ Meeting Date
  ‣ Attendees
  ‣ Decisions and Resolutions of Issues
  ‣ Action Items

NOTE: The Summary/Meeting Report may not include all items discussed in the meeting. The distributed report should not contain personnel performance, procurement or acquisition-sensitive information.

This Activity is Complete ...   When all items on the agenda have been reviewed

<div align="center">

AND

</div>

When the Summary/Meeting Report has been distributed.

Distribution for the Meeting Report includes but is not necessarily limited to:

- All Attendees

- Business Sponsor (i.e., Process Owner of Project)

- Project Manager's Direct Reports (i.e., those staff members and team leads that report directly to the PM)

- Project File (e.g., Project Configuration Management)

Project Status Meetings

Purpose   The purpose of a project status meeting is to understand the actual progress occurring on the project and communicate information on accomplishments, concerns, risks, and issues.

Results from such project status meetings are:

- Reported to senior management

- Used to determine the need for corrective actions on the project when actual accomplishments do not match planned results.

Definition   Project status meetings are project management reviews that are held at the management level that is <u>directly responsible</u> for the day-to-day detailed results of the project.

Note: Usually the person responsible for these meetings is the Project Manager (PM), but this is not always the case.

- On very large projects, the responsible person could be a 2nd- or 3rd-level manager under a PM

- On very small projects, the responsible person could be a Team Leader.

For the purpose of this guidance, the functional role is discussed as a PM, irrespective of actual job title.
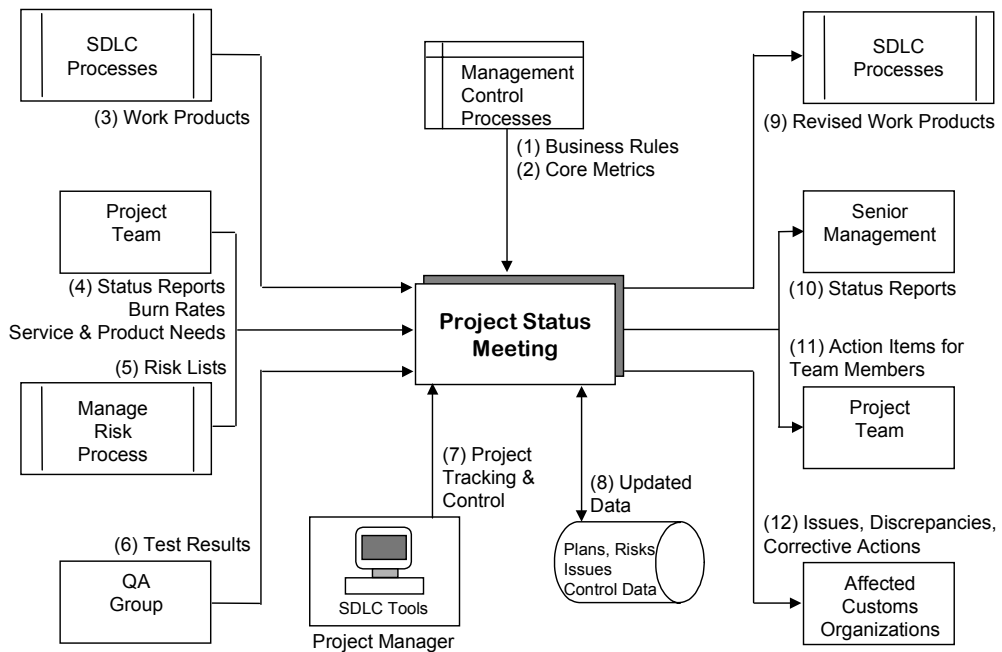
Frequency   Project Status Meetings must occur on a regularly scheduled basis and be documented.

- It is strongly recommended that these meetings occur weekly.

- At minimum, they are to be held biweekly, and more often as needed or when specific events or problems occur.

Continued on next page

Project Status Meetings, Continued

**Process
Diagram**

Project Status Meetings, Continued

Roles and Responsibilities

Role	Responsibilities
Project Manager	• Schedules and attends pre-planned periodic staff meetings; reviews project status and metrics • Reviews issues, concerns, and plans for correction • Resolves problems requiring management support • Prepares reports/metrics for senior management
PM's Direct Reports (i.e., those staff members and team leads who report directly to the PM)	• Presents required information (defined under Inputs) and problems, plus any other necessary items
Can include Entire Project Team including developers, testers, CM, Project QA Manager, and users, plus Other Support Organization Representatives as needed	• Provides information and support as needed including current progress and perceived risks. Some teams require regular written status reports from each member, while others provide verbal updates on progress and plans to be incorporated into the project schedule and tracking tables.

Project Status Meetings, Continued

Meeting Agenda	Participants shall review the following topics during each meeting:

- Schedule
  - ▸ Original and Revised Planned vs Actual Milestones/Dates
  - ▸ Progress on Detailed Tasks (e.g., requires 80 hour work packages or other product measure which can be identified and defined as done)
  - ▸ Reason for Differences/Suggested Corrections

- Hardware and Software Dependencies/Use [Planned vs Actual] (if needed)

- Status of Action Items

- Project Risks

- Issues/Concerns

- Cross-Functional/Organizational Dependencies/Concerns/Status

Inputs	Items that are used or modified during this activity are:

- Team Progress Reports
- Project Risks
- Issues/Action Items Lists
- Plans (includes the overall Project Plan and Schedule)

Project Status Meetings, Continued

Outputs

This activity will produce the following:

- Updated Schedule

- Action Items

- Updated Project Risks

- Meeting Minutes which contain, at minimum:
  - ‣ Meeting Date
  - ‣ Attendees
  - ‣ Decisions and Resolutions of Issues
  - ‣ Action Items including Assigned Responsibility

This Activity is Complete ...

When all items on the agenda have been reviewed

<div align="center">

AND

</div>

When the Meeting Minutes have been distributed

Distribution of Minutes

Distribution for the Meeting Minutes includes, but is not limited to:

- All Attendees
- Business Sponsor of Project or delegated representative
- Entire Project Team
- Affected Support Organizations
- Project File

Reporting Across OIT Organizations

Purpose   Project tracking involves substantial interaction and dependencies between the project and many of the support organizations within OIT.

OIT Support Organization Examples: Data Administration, Training, AIS Security, LAN Support, Network Management, Technical Architecture Group, System Engineering.

Reports on the support organization's progress and concerns relating to a project will be used in managing and reviewing the project's schedule and plans.

Importance   Communication between these support organizations and the project is needed for various reasons, including the following:

- **Planning:** Each organization maintains plans to support the project based on initial agreements made related to milestones and interfaces. Communication and agreement between the project and the support organization is also required as changes to these commitments are made.

- **Milestones:** Regular communication is essential to keep the project aware of progress made on their support requirements by the support organization. [See the information in Section B, *Project Metrics*, concerning how progress between milestones is tracked.]

- **Project Changes:** Information must be exchanged on agreed changes in scope, requirements, and/or schedule which will impact the other organization(s).

  Example: The project is now scheduled to be deployed at 10 sites rather than 15 (or vice versa) by x date.

- **Operational Impacts:** It is essential to share information on the project's operational impacts on other systems and/or applications in a timely manner.

  Example: The project's deployment will cause an estimated increase in network traffic of x% during the hours of xx to xx.

Reporting Across OIT Organizations, Continued

Importance
(continued)

- **Environment:** The status of the required environmental setup for project development, testing, and/or production must be communicated across all organization(s) affected.

This Activity Begins ...

After the draft Functional Requirements have been developed

Caveats

The organizations listed in this procedure are examples to indicate the broad range of functions that may be represented.

See also:

- Functional Impact Areas (Volume I, Chapter 1, Section B, *Basic Principles and Standards*)

- Volume I, Chapter 17, Section B, *Functional Impact Areas Checklist.*

No implication is made concerning whether these functions are performed by separate groups, nor that these are the only support organizations that should be involved in this communication loop.

Each project should include, at least initially, all groups known **or suspected** to be impacted by the project's activities, requirements, or products.

Key Activities

Task	Description
1	A project Kickoff Meeting should be held to review the general functional specifications with <u>all</u> potentially impacted organizations. • These groups should ask questions to clarify requirements or if they believe something is missing. • Support organization(s) affected by the project's activity must review the specifications in detail to identify specific impacts and deliverables listed in Task 2.

Reporting Across OIT Organizations, Continued

Key Activities

Task	Description
2	Affected support organizations will return the following information to the Project Manager for inclusion in the project's schedules and plans: • Products/support activities that the application/project will require them to produce. • Issues, contingencies, and risks concerning the activities or scheduling. • Milestones and a Plan to meet the support requirements. • Deliverables needed from others in order to complete their function (within planned schedule) and some mechanism to update their schedule if delayed by external sources.
3	Coordination/Status Meetings will be held to update all concerning progress, schedule, and to address possible impacts. • These meetings should be held, at minimum, biweekly, and more often depending on criticality and major milestones. **Note**: Depending on project size, an alternative to separate meetings is the inclusion of these organizations in the regular Project Status Meeting.
4	Information reported (e.g., meeting minutes) must be maintained in a centralized, known, and accessible location, such as: • The Project CM File • An automated tool such as the IT Project Tracking system or a project-specific tool such as TRACE.

Reporting Across OIT Organizations, Continued

Roles and Responsibilities

Role	Responsibilities
Project Manager/ First-line Team Leader	• Ensures that this activity/communication is being performed on a regular basis • Incorporates results into the current schedule
External Groups (see Functional Impact Areas list attached for examples of support functionality)	• Tracks activities to closure and includes results in updates to schedule • Reports accurate status and potential concerns in a timely fashion

Inputs   Items that are used or modified during this activity are:

• Product/Deliverable list, Status/Schedule, and Issues from external groups

• Project Plan and schedule

• Project Status Meeting Minutes

• Functional Requirements

Outputs   This activity will produce the following:

• Potential Project Risks

• Cross-Functional/Organizational Dependencies/Concerns

• Possible Changes or Updates to Functional Requirements

• Record of Results e.g., Status Updates recorded in Meeting Minutes, Spreadsheet, or Automated Tool (as appropriate)

Reporting Across OIT Organizations, Continued

|	
This Activity is Complete ...	When the record of results is distributed/made available to the first-line team leader of the project, all contributors, and to all affected parties within the project as appropriate
	If the documentation is maintained in an accessible online location, distribution can be performed by e-mail, telling all parties where the document is located and can be viewed.

Section D
Meetings, Issues and Action Item Tracking

Purpose   The purpose of this procedure is to identify and communicate actions and decisions and to provide a traceable mechanism for lessons learned.

Process Diagram
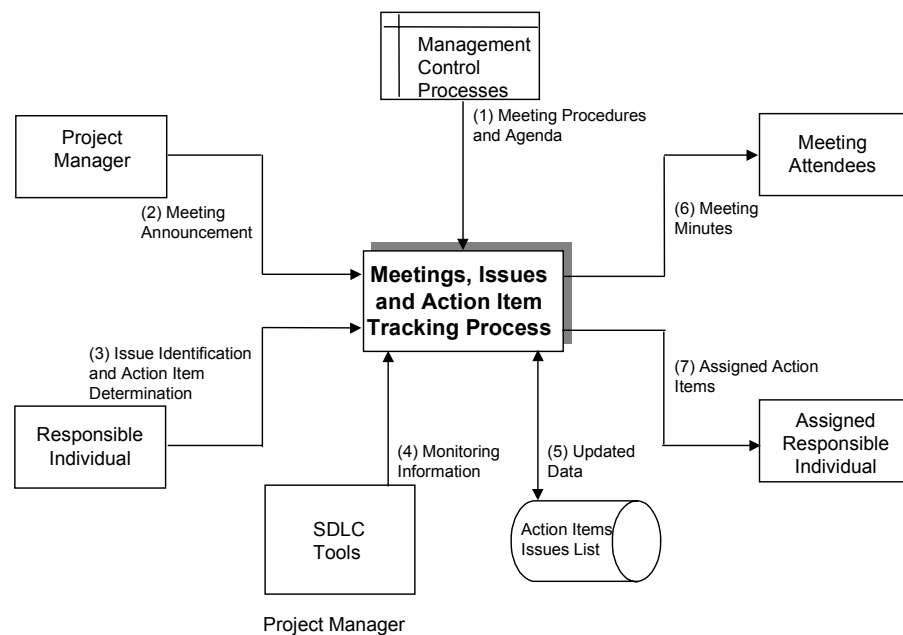
This Activity Begins ...

When a meeting occurs   **OR**
When an issue is recognized   **OR**
When an action is determined   **OR**
When coordination with persons inside or outside the project group is required

Continued on next page

Meetings, Issues, and Action Item Tracking, Continued

Definitions   **Issue:** An issue is a question or concern that needs resolution. It often defines areas where problems may occur. It may or may not be a risk or a current problem.

Action Item: A task or issue assigned to an individual to research or resolve by a specific date. One high-level issue may cause the generation of a group of Action Items.

Meetings Documentation Key Activities

Task	Description
1	Every meeting should have an agenda and a designated recorder.
2	The recorder should document, at minimum: • the meeting date • attendees • decisions and resolutions of issues • new issues • action items from the meeting.
3	A copy of the draft minutes should be made available for review by the meeting leader and attendees.
4	A copy of the minutes must be maintained in a centralized, known, and accessible location. Examples include the Project CM File or in an automated tool (e.g., the IT Project Tracking system or a project-specific tool such as TRACE).

Meetings, Issues, and Action Item Tracking, Continued

**Issues and
Action Items
Documentation
Key Activities**

Task	Description
1	Issues should be maintained in a centralized location for periodic review. Examples include an Issues List or online database.
2	Issues documentation should contain, at minimum: • a description of the issue • name of the person who raised the issue • date the issue was first recognized • comment/progress notes on resolution.
3	Action Items should be documented with, at minimum: • a short description • date opened • responsible party • date due • actual completion date • progress notes/status information. If available and appropriate, additional information can be maintained such as originator of the item or knowledgeable reference person.
4	Action Items should be maintained in a centralized and accessible location such as an Action Item Database or Action Item List which will be reviewed regularly during Project Status Meetings, etc.

**Roles and
Responsibilities**

Role	Responsibilities
Assigned Recorder	• Documents minutes, issues, and action items from meeting
Meeting Leader	• Confirms draft meeting minutes and action items
Meeting Attendees	• Reviews draft meeting minutes and action items

Meetings, Issues, and Action Item Tracking, Continued

Roles and Responsibilities (continued)

Role	Responsibilites
Assigned Responsible Party	• Handles action item assigned • Updates progress in database and status reports
All Project Team Members and affected personnel	• Reviews minutes and actions to ensure awareness of decisions, changes, and activities on project • Brings potential issues/concerns to the attention of project management and affected support organizations
Project Manager	• Tracks actions to closure and includes results in updates to schedule • Reviews issues and handles/assigns resolution actions appropriately

Inputs   Items that are used or modified during this activity are:

• Occurrence of meeting, issue identification, or action item determination

• Action Item database

• Issues List

Outputs   This activity will produce the following:

• Updated Issues

• Updated Action Items database (includes addition of new actions and updates to status of existing actions)

• Meeting Minutes

Meetings, Issues, and Action Item Tracking, Continued

This Activity is Complete ...   When the appropriate documentation is completed

AND

When the documentation is available to all affected parties

If the documentation is maintained in an accessible online location, distribution can be performed by an e-mail indicating that the updated document exists and can be viewed.

Section E
Revising/Rebaselining the Project Plan

Purpose   Since software development is a human activity, there will always be some variances from the original plan. As information about the project changes, the project's plans must be updated to remain consistent with reality.

This includes changes to information on the project's:

- Scope and requirements
- Development methodologies
- Life cycle choices
- Resources
- Costs
- Schedule
- Achievements
- Risks
- Activities
- Commitments
- Updates based on experience

Management involves:

- Measuring the trends of these variances
- Taking corrective actions to realign the project with the plan when variances become significant

In This Section

Topic	See Page
Comparison and Definition	I-4-46
Revising/Rebaselining the Project Plan Process	I-4-48

Comparison and Definition

**Comparison:
Revise or
Rebaseline?**

	Revise	**Rebaseline**
Frequency	As appropriate	When significant changes occur in cost, functionality or schedule
Magnitude of Changes	Slight to Moderate	Major
Impact on Current Project Plan	Minimal	Current Plan is no longer viable and is replaced with a "new" plan
Functionality/Scope	Little or None	Changes make current plan unworkable
Technical Direction	No Change	New Technical Direction
Commitments	Current commitments still valid	Commitments must be re-negotiated. Senior management re-approval required

**Definition:
Corrective
Actions**

Corrective actions are changes made to a plan when the plan is not being achieved, either by adjusting performance or by adjusting the plan. This may be accomplished by the creation of a 'get well plan', definition of alternative plans, reallocation of resources, and/or development of risk mitigation plans.

Examples:

• Extending the schedule to maintain quality
• Adding or reallocating resources to stay on schedule
• Deleting functional capabilities to control costs
• Changing the process to improve performance

If the change made does not affect the overall cost, key milestone dates, or the functionality of the product, then the revised plan does not need to be formally rebaselined.

Comparison and Definition, Continued

Definition:
Corrective
Actions
(continued)

Note: Care must be taken to ensure that the interdependencies between the project's requirements, design constraints, resources, cost, and schedule are reflected in all changes made.

Revising/Rebaselining the Project Plan Process

This Activity Begins ...

When the current Project Plan can no longer be followed, e.g., when the currently defined start and end dates no longer make sense
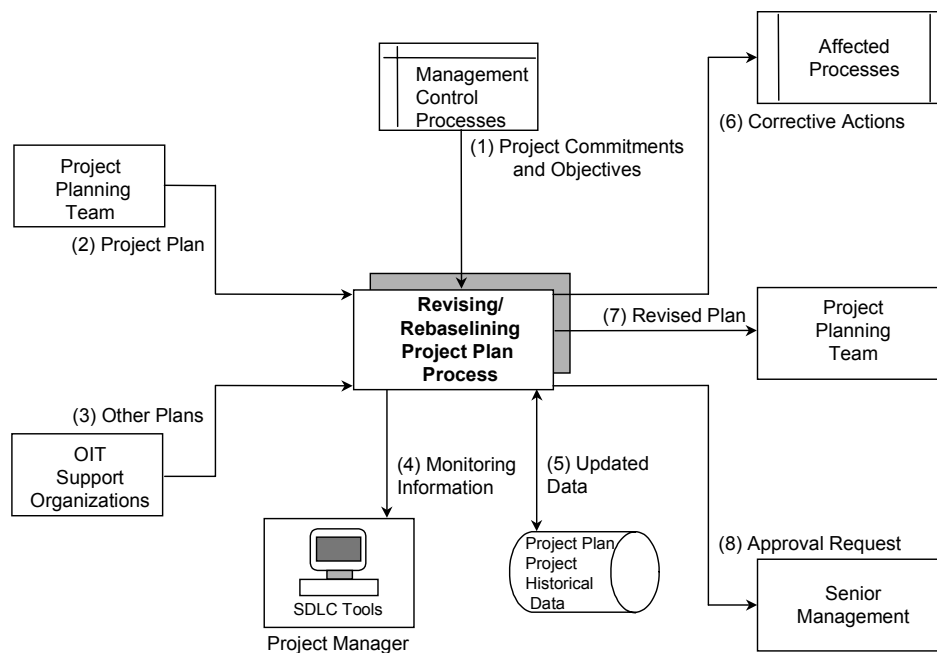
OR

When the technical direction of the project has changed, e.g., when the technologies used or the project's life cycle choices change

OR

When the project's functionality or scope changes significantly

Process Diagram

Revising/Rebaselining the Project Plan Process, Continued

Implementation Responsibility   The Project Manager is responsible for taking corrective actions and making changes within the project to ensure these commitments are met.

Replanning Activities

Task	Description
1	Review the metrics used originally, e.g., size estimates, and update these -- base replanning metrics on actual accomplishments.
2	Bring your current project's experience and historical results from other projects into the re-estimating and replanning activities.
3	Verify that the scheduled activities, reviews, and milestones are feasible given resource and project constraints.
4	Document the assumptions and estimates used in the replanning.
5	Identify, document, and track project risks; perform project risk analysis and contingency planning. **Reference:** Volume I, Chapter 5, *Risk Management Processes*
6	Include phased delivery of more detailed plans at appropriate points in the life cycle (e.g., after requirements and/or design is completed).
7	Ensure other plans agree (e.g., configuration management plan, quality assurance plan, implementation plan, other OIT support organization schedules/plans).
8	Renegotiate commitments with all affected parties (e.g., users, project team, other OIT support organizations).

Revising/Rebaselining the Project Plan Process, Continued

Roles and Responsibilities

Role	Responsibilities
Project Manager **or** Project Initiation Team with PM	• Develop/Update Project Plan and Schedule (see Project Planning Section for required activities) • Define and track corrective actions as needed • Baseline/Rebaseline approved Project Plan
Senior Management	• Approve revised Project Plan and renegotiated commitments for rebaselining
Team Leads, Project QA, OIT Support Organizations	• Provide inputs on activities, resources, status, actual accomplishments, metrics for replanning
Business Sponsor and Users	• Provide input on functionality and relative priorities

Inputs

Items that are used or modified during this activity are:

- Prior Plans
- Current Status and Schedule
- Project Metrics

Outputs

This activity will produce the following:

- New Project Plan and Schedule

This Activity is Complete ...

After appropriate approvals have been received and documented for the revised/rebaselined Project Plan